UNIT VII:
Perioperative Nursing

NURSING CARE:

Before: Preoperative

During: Intraoperative

After: Postoperative

Perioperative Nursing

- Based on Nursing Process
- Nurse Individualizes Care Strategies for Client
- To Ensure Smooth Transition

From Admission ⇩ To Discharge

Perioperative Sites

- Hospital: Inpatient & Outpatient
- Free Standing Surgical Centers
- Surgical Center Attached to Hospital
- Physician's Office

Ambulatory Surgery

Advantages:

- Decreased Cost
- Decrease in nosocomial infections
- Client assumes an active role in recovery-may return-work sooner
- Less Psychological Stress

Ambulatory Selection Criteria

- Agreeable to Concept
- Adequate Home Care Immediate Postop
- Can Understand & Follow Pre & Postop Directions

Classification of Surgery

- SERIOUSNESS
  - Major
  - Minor
- URGENCY:
  - Optional
  - Elective
  - Urgent
  - Emergency
- PURPOSE:
  - Diagnostic
  - Ablative
  - Palliative
  - Re-constructive
  - Transplant

Characteristics: Perioperative Nursing

- High Quality Teamwork
- Effective & Efficient Client Assessments in all Phases
- Advocacy for Client & Client's Family
- Understanding of cost Containment
- Effective & Therapeutic Communications: Client, Client's Family & Surgical Team

Critical Skills: Perioperative Nursing

Prevent or Minimize Complications:

- Surgical Asepsis
- Documentation
- Client Safety
- Effective Teaching & Discharge Planning

Physiologic Response: Surgery

Homeostasis Maintained

Complex System

Auto-regulatory Control Mechanisms

Psychological Responses

- Loss of Control
- Fear of the Unknown
- Fear of Anesthesia
- Fear of Pain
- Fear of Death
- Fear of Separation
- Fear of Disruption of Life Patterns
- Fear of Mutilation

Perioperative Nursing: Health Factors Considerations

- Health perception/ maintenance
- Activity & Exercise
- Nutritional & Metabolism
- Elimination
- Sleep & Rest
- Cognition & Perception
- Self-Concept
- Role & Relationships
- Coping & Stress Tolerance
- Sexuality
- Values & Beliefs
- Obese Clients
- Clients w/ Disabilities

Perioperative: Nutritional Considerations

- Prior to Elective Surgery Nutritional Deficiencies--Identified & Corrected
- 2-3 Wks Required for Objective Evidence of Effectiveness of Nutritional Therapy
- Diseases Affecting GI Tract & Accessory Organs (Liver, Gallbladder, & Pancreas): Increase Surgical Risk d/t Interference w/ Nutrition

Perioperative Nursing: Lifespan Considerations

- Newborns & Infants
- Toddlers & Preschoolers
- School-age children & Adolescents
- Adults & Older Adults

Preoperative Nursing: Assessment

- History:
  - Medications
    - Prescriptions & Nonprescription
  - Preexisting Diseases
    - Chronic & Acute Conditions
  - Mental & Psychological Assessment:
    - Perceptions; Emotions: Behaviors; Support Systems; Cultural & Spiritual belief
  - Surgical & Anesthesia History
    - Date & Type
    - Complications: Prolonged Sleep; Malignant Hyperthermia
    - Client's Overall Experience w/ Surgery

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Preoperative: Assessment

- Physical Assessment:
  - Provides Baseline Data:
    - Height & Weight
    - Vital Signs
    - Neurologic Status
    - Level of Consciousness
    - Signs of Altered Nutritional Status
    - Skin Integrity
    - Physical Limitations
    - Laboratory & Diagnostic Tests

Preoperative: Nursing Diagnoses

- Deficient Knowledge regarding perioperative procedures R/T
- Anxiety R/T
- Acute Pain R/T
- Disturbed Sleep Pattern R/T

Preoperative: Expected Outcomes

- Client will:
  - Verbalize understanding of perioperative care.
  - Report decreased anxiety level regarding surgery.
  - Experience adequate control of pain.
  - Demonstrate signs of sufficient rest before surgery.

Preoperative: Planning & Implementation

- Nutrition:
  - Local or No Anesthesia May Have Light Breakfast, or Liquids
  - General or Regional: NPO for 5-8 Hrs. Usually Held from Midnight to Surgery
  - Bowel Preparation Can Deplete Body Fluids

Preoperative: Planning & Implementation

- Elimination:
  - Empty Bladder:
  - Just Prior to Transfer to OR Before Administration of Preop Meds
- Hygiene:
  - Skin Preparation: Remove Microbes & Inhibits Rebound Growth w/ Minimal Irritation
- Removal of All Cosmetics & Nail Polish
- Remove Glasses, Denture, Etc.

Preoperative: Planning & Implementation

- Medications:
  - Can Create Intraoperative Complications:
    - Anticoagulants: ASA
  - Medications D/C or Held for Surgery
    - Necessary Meds Taken w/ Sips H_2O
  - Preoperative Meds:
    - Reduce Anxiety
    - Facilitate Smooth & Induction
    - Usually Oral

Preoperative: Planning & Implementation

- Psychological Preparation:
  - Reduces Need for Preop Meds & Postop Pain Meds
  - Provides Information & Reassurance
  - Information Allows “Rehearsal”
  - Foster Sense Of Control w/ Teaching
  - Include Family In Preoperative Preparations

Preoperative: Planning & Implementation

- Teaching needs:
  - Coughing & Deep breathing exercises
  - Incentive spirometer
  - Mobility & Active body movement
  - Pain management
  - Cognitive coping strategies
  - Ambulatory surgical clients

Preoperative: Planning & Implementation

- Turning & Body Movement:
  - Encouraged to Move
  - Prevents Venous Stasis, Improves Circulation & Muscle Tone, & Respiratory Function
  - In Bed Turn Side/Side Every 2 Hrs
  - Flex & Relax Major Muscle Groups
  - Active /Passive ROM of Extremities Unless Contraindicated

Preoperative: Planning & Implementation

- Preoperative Preparation for Pain Management:
  - Discuss: Previous Experience; Beliefs; Preference for Pain Management
  - Give Information
    - Pain Management Therapies
    - Rationale for Use
  - Plan for Pain Assessment & Management:
    - Select Pain Assessment Tool
      - Teach Use

Preoperative: Informed Consent

- Obtained before Surgery Except in ***Very Unusual Situations***
- Must be Voluntary, Informed & Competent
- Spouses/Children ***DO NOT*** Give Consent for Competent Adults
- No Preop Meds Until Consent Is Signed
- Consent Can Be Revoked @ Any Time

Emergency Preparation

- Preop Interventions Maybe Limited by Urgency of Impending Surgery or Condition of Client
- Nursing Interventions Should Cover Essentials w/ Minimal Amount of Time
- Take Extra Care to Consider Emotional Needs
- Provide Information, Reassurance, & Answer Question

Perioperative Rapid Assessment

AMPLE =

A → Allergy
M → Medications
P → Past Medical History
L → Last Oral Intake
E → Event Leading Up To Surgery

Preoperative: Evaluation & Documentation

- Evaluation
  - Ongoing Process
  - Goals Assessed: Return Demo or Client Verbalization
- Documentation:
  - All Appropriate Data Clearly Documented
  - Before Transfer to OR - Record Reviewed for Completeness

Preoperative Nursing: Summary

- Preoperative Client & Nursing Goals: Are Met - Client Ready for Next Phase
- Preoperative Phase Provides Opportunity to Establish Firm Foundation for Remaining Phases
- Outcomes & Ultimate Success of Perioperative Care: ***Relies on Foundation Established in Preoperative Phase***

Intraoperative Nursing:

Unique Environment:

- Acute Care Unit Designed to Provide to Extent Possible Germ Free Environment
- Physical Environment Controlled: Flow of Personnel, Supplies & Equipment
- Zones/Areas: Semipublic; Semirestricted; Restricted

Intraoperative: Surgical Team

- Surgeon
- Assistants (RNFA)
- Anesthesia Care Provider: MD/CRNA
- Perioperative Nurses
- Operating Room Technicians: ORT or CORT
- Other Allied Health Professionals
- Support Personnel

Intraoperative Nurse Roles

- Scrub Nurse: Assigned Duties Requiring Sterile Technique; ORT Can Perform These Duties
- Circulating Nurse: Responsible for Nonsterile Nursing Functions
  Client Advocate

Anesthesia

- Definition: Rendering clients Insensible to Pain during--Surgical, Obstetrical, Therapeutic, or Diagnostic procedures.
- Classification:
  - General
  - Regional
  - Monitored Anesthesia Care

Anesthesia

" the Absence of Pain"

- General Anesthesia: Drug Induced State; Analgesia, Amnesia, Muscle Relaxation, & Unconsciousness
- Regional Anesthesia: Renders Specific Region of Body Insensitive to Pain
- Conduction Anesthesia: Deposits Local Anesthesia Along Nerve Pathway

Types of Regional Anesthesia

- Spinal (Subarachnoid):
  - Needle into Spinal Canal below Level of Spinal Cord
  - Blocks Transmission of Painful Stimuli ← Through Spinal Nerve Roots
  - Used for Lower Abdominal & Lower Extremities
- Epidural/Caudal:
  - Injection into Space Adjacent to Dural Membrane (Epidural Space)
  - Catheter in Place Can Repeat Doses

Types of Regional Anesthesia

- Peripheral Nerve Blocks:
  - Injected Around Peripheral Nerves
  - Provides Anesthesia in Area of Distribution of Blocked Nerve
- Local Anesthesia:
  - Topical Application/ Infiltration into Tissues
  - Disrupts @ Level of Nerve Endings
- Monitored Anesthesia Care (MAC):
  - Surgeon Administers Local
  - Anesthesia Personnel Manages Hemodynamics of Ct. Intraoperatively & Postoperatively

Anesthesia Hazards

SORE THROAT → DEATH

Result From:

- Drugs & Equipment Used
- Process of Administering Anesthetic
- Inherent Toxicity of Drugs Used
- Human Error
- Anesthesia Risk ⊗ Surgical Risk

Malignant Hyperthermia

- Most Common Cause of Anesthesia Death
- Rapid Progressive Condition: Fatal if not Promptly Recognized & Aggressively Tx
- Inherited Disorder of Abnormal Muscle Metabolism & Heat Production
- Associated w/ Stress Response or Certain Anesthetics
- Careful Review Of Family History
- Etiology Not Clear
- Treatment: Dantrolene (Dantrium - Direct Acting Skeletal Muscle Relaxant

Intraoperative Nursing: Assessment

- Identify Client
- Completes Nursing Assessment of Ct.'s Immediate Preoperative Condition
- Confirm Operative Procedure
- Review All Documentation for Completeness

Intraoperative: Nursing Diagnoses

- Risk for Perioperative Positioning Injury R/T
- Risk for Injury R/T
- Risk for Infection R/T
- Risk for Latex Allergy Response
- Risk for Imbalanced Body Temperature

Intraoperative: Planning & Expected Outcomes

Client Will:

- Leave OR Suite w/ Skin Intact Except for Surgical Incisions & Drain Sites.
- Be Normothermic on d/c from OR.
- (Patient &/or Family) Exhibit Decreased Level of Anxiety during Operative & Post Operative Phases.
- Remain Free from Injury While in OR Suite.

Intraoperative: Planning & Expected Outcomes

- Intraoperative communication will be maintained w/ verbal & nonverbal measures: Ct. will be able to communicate effectively w/ staff & Staff will be able to effectively communicate w/ Ct.
- Aseptic technique will be maintained: Ct. will remain free from signs of infection for 48 hrs. postoperatively.

Intraoperative: Implementation

- Emotional Support
- Safety
- Positioning
- Skin Preparation
- Electrical Hazards
- Chemical Burns
- Temperature

Intraoperative: Evaluation

- Occurs before Transfer from OR to PACU: This Transfer Completes Intraoperative Phase
- Documentation:
  - Skin Integrity
  - Maintenance of Fluid/Electrolyte Balance
  - Absence of Adverse Effects of Positioning
  - Maintenance of Body Temperature
  - Physiological Functions/Condition of Ct.

Postoperative Nursing: Assessment

- Respiratory: Check
  - Airway Patency
  - Respiratory Rate & Depth
  - Auscultate Breath Sounds
  - Inspect Skin Color
  - Observe Chest Expansion

Postoperative: Assessment

- Cardiovascular:
  - Prompt Detection of Postoperative Bleeding is Essential
  - Monitor B/P, Heart Rate & Rhythm every 15 minutes or more often if Ct. condition warrants
- Neurologic: Check
  - Pupillary Response
  - Muscle Strength - to determine muscle relaxant reversal, if used

Postoperative: Assessment

- Dressings:
  - Monitor for integrity of dressings
  - Observe for hemorrhage or hematoma formation
- Pain Management:
  - Assess both Subjective & Objective
  - Administer Analgesics as appropriate

Postoperative: Assessment

- Renal Function:
  - Monitor Volume of Urinary Output
  - Ct. w/ Indwelling Catheter: @ Least 30 mL/hr
  - Ct. without Catheter Palpate & Percuss Bladder for Distention

Postoperative: Nursing Diagnoses

- See Table 29-10 in Cravin & Hirnle pg. 641.

Postoperative: Expected Outcomes

Overall Goals:

- Prevent or Minimize Complications
- Return Ct. to Optimal Functioning

RN's *Primary Responsibility* in PACU is Assessment & Continual Monitoring Of Ct's Condition Until Effects & Danger of Most Serious Side Effects from Anesthesia Have Subsided & Physiological Status Stabilizes

Postoperative: Interventions in PACU

RN Maintains for Ct.:

- Safe Environment
- Patent Airway through Positioning, Suctioning & Care of ET Tube
- Adequate Circulating Volume w/ Fluid Replacement, Volume Expanders, &/or Blood Administration
- Control of Postoperative Discomfort
- Deep Breathe & Moving as Ct. Regains Consciousness

Discharge from Ambulatory Surgical Center

- Void (After Spinal)
- Able to Ambulate
- Alert & Oriented
- Minimal Nausea & Vomiting
- Require No Pain Meds within Last Hr
- Exhibit No Excessive Bleeding or Drainage
- Discharge Teaching Must Be Completed
- Responsible Person Available to Drive Ct. Home & Be w/ Them @ Home

PACU Discharge

Client Will:

- Have Stable V/S
- Patent Airway
- Controlled Bleeding & Wound Drainage
- Normal Thermal State
- Adequate Fluid Balance
- Adequate Urinary Output
- Absence or Control of Anesthetic or Surgical Complications
- Recovered or Nearly from Anesthetic
- Adequate Respiratory Function
- Orientation to Environment
- Ability to Request Assistance

Report to Surgical Unit

PACU RN Reports:

- Type of Surgery
- Ct.'s Tolerance of Procedure
- Type Anesthesia Used
- Vital Signs
- IV Lines
- Blood Loss - Fluid or Blood Replacement
- Dressing, Tubes, Drains
- Drainage Output
- Urinary Output
- Meds Administered
- Level of Pain
- Method of Pain Control
- Any Complications

Notify Family or Friends of Ct's Transfer to Another Unit

Interventions Surgical Unit: Early Postoperative Phase

- Mobility & Self-Care:
  - Encourage Ct. to Increase Independence
  - Encourage Mobility & Early Ambulation
  - Good Hygiene Necessary for Ct. Wellbeing
- Respiratory Maintenance:
  - Turn, Cough, Deep Breathing, Positioning
  - Early Aggressive Ambulation

Interventions Surgical Unit: Early Postoperative Phase

- Circulatory Maintenance:
  - Leg Exercises, Frequent Turning & Positioning
  - Use of Antiembolic Stockings; Sequential Compression Devices (SCD)
  - Adequate Hydration
  - Early Ambulation
- Wound Care:
  - Inspect Wound Regularly
  - Note Amt.. & Type Drainage
  - Change Dressing w/ Aseptic Procedure
  - Report Signs & Symptoms of Infection

Interventions Surgical Unit: Early Postoperative Phase

- Elimination:
  - Void within 8 hrs
  - Intermittent Catheterization
  - Urine Output @ Least 30 mL per Hr
  - Normal Bowel Movements Return after Normal Bowel Sounds Return May Have Flatus/Gas Can Be Very Uncomfortable
  - Normal Bowel Movement within 3 days of Normal Food Intake- -if Not Stool Softeners, etc. Maybe Ordered

Interventions Surgical Unit: Early Postoperative Phase

- Comfort & Rest:
  - Pain Management Nursing Priority
    - Nonpharmacologic
    - Pharmacologic
    - Teach Ct. to Recognize & Report Pain
  - Rest Important to Promote Healing
    - Whenever Possible Group Interventions Together

Interventions Surgical Unit: Early Postoperative Phase

- Hydration:
  - Fluid Volume Deficit d/t Excessive Loss of Fluid & Inadequate Replacement
  - Monitor Postural B/P to Detect
  - Length of IV Administration Depends on Surgery & Client
  - IV D/C'd after normal B/S Return; Maybe Delayed if GI Surgery

Interventions Surgical Unit: Early Postoperative Phase

- Nutrition:
  - Progressive Dietary Intake Depending on Ct's Condition:

After Normal B/S Return:

  - Clear Liquids
  - Full Liquids
  - Soft Diet
  - Regular Diet
  - As Diet is Advanced Assess for: Nausea, Vomiting, Abnormal B/S, Abd. Distention

Nutritional Complications

- Cts. w/ Postop Complications ** **4X's**** more Likely to be Malnourished Preop
- Liver Disease = Special Concerns d/t Varied Functions of Liver Especially Metabolizing & Detoxifying Drugs - Anesthetics, Anti-infectives, Analesgics Are Toxic to Liver

Postoperative: Nutritional Considerations

- Healing Process Needs:
  Protein, Vitamin C & K, Zinc & Balance of Other Nutrients
  - Protein Depletion = Increased Risk of Infection & Shock d/t Decreased Production of Antibodies & WBC's
  - Vitamin C = Collagen Formation
  - Vitamin K = Blood Clotting
  - Zinc = Tissue Growth, Bone Formation, Skin Integrity, Cell-mediated Immunity, & Generalized Host Defense

Postoperative: Evaluation

- Assess whether the identified expected outcomes were met or not
- Ultimate goals are:
  - No postoperative complications
  - Return client to optimal level of functioning
- Documentation:
  - All appropriate data clearly documented
  - Before discharged to home- client/family able to follow discharge instructions